

where: " $V_{LL}$ " is the line-to-line voltage as a proportion of a phase winding voltage level;

"X" is a fraction of a phase winding arranged in a Delta topology, and

"j" is a complex operator, wherein  $j^2 = -1$ .

### **REMARKS**

Reconsideration of this application is respectfully requested. The amendments should be entered after final because they correct minor matters of form, e.g., claim 13, and place other claims in clear condition for allowance.

The objection to the drawing and specification as not showing a mid-winding connection has been overcome by amendment to the specification. In particular, the specification at page 12 has been amended to make clear that the tap (50) shows a mid-winding connection. By amending the specification at page 12, the objection to the specification has been overcome. In addition, the objection to the drawing is overcome because the drawings do show a tap (50) which shows the mid-winding connection as recited in the claims.

Claims 8-12 have been rejected as being anticipated by Nakamura (U.S. Patent No. 5,760,567). Claim 8 has been amended to make more clear that each phase winding has a plurality of connection points. Contrary to the rejection, Nakamura does not disclose or suggest "segmenting each of the plurality of phase windings into a first winding segment and a second winding segment by establishing a connection point **at one of a plurality of available mid-winding connection points on each of said phase**

**windings"** (emphasis supplied). Nakamura et al at figure 10A discloses an armature winding topology having a single mid-winding connection point (U2, V2 and W2) for each of the three winding phases. There is no disclosure of a plurality of mid-winding connection points, as is called for in method claim 8. Accordingly, there is no anticipation and the rejection should be withdrawn.

The Action incorrectly states that phase winding (Y) disclosed in Nakamura has mid-winding connection points at W1 and V1 or W1 and U1. However, the Nakamura phase winding (Y) has no connection at point V1 or U1. Rather, the mid-winding connection in phase winding (Y) is at only one point (W1). Phase winding (Y) does not have connections at V1 or U1. The phase winding (Y) does not have a plurality of midpoint connections as called for in the claims.

Three phase windings are (X, Y and Z) shown in Figure 10A of Nakamura, and each phase winding has just one midpoint connection. Phase winding (X) has a midpoint connection at V1; phase winding (Y) has a midpoint connection at W1, and phase winding (Z) has a midpoint connection at U1. The statement in the Action that phase winding (Y) has midpoint connections at V1 or U1 is simply erroneous because those midpoint connections do not relate to phase winding Y--but rather relate to phase windings X and Z, respectively. Accordingly, the armature arrangement shown in Figure 10A of Nakamura shows individual phase windings having a single mid-winding connection tap and not the plurality of connection taps required by the claims. As there is no suggestion of having a plurality of connection points in any single phase windings,

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Nakamura does not disclose the claimed invention of having a plurality of mid-winding connection points on a single phase.

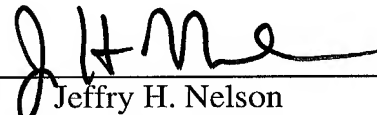
All claims are in good condition for allowance. If any small matter remains outstanding, the Examiner is requested to telephone applicants' attorney. Prompt reconsideration and allowance of this application is requested.

Attached hereto is a marked-up version of the changes made to the specification and claim(s) by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**IN THE SPECIFICATION**

The paragraph beginning at page 12, line 10:

The end turns 36 provide a ready-made point at which electrical connection may be made to tap a mid-winding portion of [into] a phase winding circuit. The end turns are easily accessible as they extend outside of the stator body 14, and allow connections 50 to be made to the mid-winding portion [windings] with relative ease. The phase windings 20 have two end terminals 52 at opposite ends of the winding, terminal taps 50 may be connected to selected winding end turns to extract electric power from only a portion of the winding. A terminal tap 50 may provide a connection to any one or more of the end turns 36 in a phase winding 20.

**IN THE CLAIMS**

8. (Twice Amended) A method for connecting armature windings in an electrical machine, wherein the armature windings include a plurality of phase windings, said method comprising:

a. segmenting each of the plurality of phase windings into a first winding segment and a second winding segment by establishing a connection point at one of a plurality of available mid-winding connection points on each of said phase windings [winding];

b. at the established mid-winding connection point, connecting an end of the first winding segment in each phase winding to an end of the first winding segment in another of said phase windings to form a Delta winding topology, and

c. at the established mid-winding connection point, connecting a first end of one of said second winding segments to a plurality of connected ends of said each of said first winding segments to form a Wye topology about each mid-winding connection point.

13. (Twice Amended) A method for connecting armature windings in an electrical machine, wherein the armature windings include a plurality of phase windings, said method comprising:

a. segmenting each of the plurality of phase windings into a first winding segment and a second winding segment by establishing a connection point at one of a plurality of available connection points on said phase winding;

b. at the established connection point, connecting an end of the first winding segment in each phase winding to an end of the first winding segment in another of said phase windings to form a Delta winding topology;

c. at the established connection point, connecting a first end of one of said second winding segments to a plurality of connected ends of said each of said first winding segments to form a Wye topology about each connection point, and

d. establishing a line-to-line output level ( $V_{LL}$ ) between each of said phase windings [in accordance with the following expression:

$$V_{LL} = |Xe^{j\pi/6} + \sqrt{3}(1 - X)|$$

where: " $V_{LL}$ " is the line-to-line voltage as a proportion of a phase winding voltage level;

"X" is a fraction of a phase winding arranged in a Delta topology, and

"j" is a complex operator, wherein  $j^2 = -1$ ]